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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/792,237

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Manabu Fujita

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EXAMINER

SMITH, PHILIP ROBERT

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/792,237	Applicant(s) FUJITA ET AL.	
	Examiner PHILIP R. SMITH	Art Unit 3739	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 10-14, 16 and 18-21 is/are pending in the application.
- 4a) Of the above claim(s) 1-6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7, 10-14, 16 and 18-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

- [01] A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/14/09 has been entered.

Claim Rejections - 35 U.S.C. 112, Paragraph Two

- [02] The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
- [03] The rejection of claims 7,10-14,16,18 and 21 set forth in the Office action of 5/14/09 are withdrawn in view of the amendments of 10/14/09.
- [04] The claims (e.g. claim 7) variously recite "the body cavity", "the human body", "the body surface", which lack antecedent basis. Appropriate correction is required.
- [05] Claim 19 recites "to communicated date." This is an obvious typographical error. Appropriate correction is required.

Claim Rejections - 35 USC § 102 and/or § 103

- [06] The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
- [07] Claims 7, 10-14, 16, 18-21 are rejected under 35 U.S.C. 102(a) as anticipated by Fujita (2003/0085994) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fujita in view of Frisch (2002/0173718).
- [08] With regard to claims 7: Fujita discloses a capsular medical system comprising:

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- [08a] a capsular in-body unit ("capsule type endoscope 3," [0074]) having a radio communication device ("antenna 23," [0074]) which is inserted or swallowed to be introduced to the body cavity;
- [08b] an extracorporeal device ("external unit 5," [0070]) comprising:
- a communication device for [bidirectional] communication with the in-body unit, which is arranged outside the human body;
 - at least two [a plurality of] antennas connected to the extracorporeal device ("multiple antennas 11a to 11d," [0070]) arranged near the body surface along a running direction of a digestive tract (see paragraphs below) to communicate data to the in-body unit;
 - a switching device ("antenna switch 45," [0071]) which switches the antennas;
 - a detecting device ("receiving circuit 33," [0075]) which detects a communication state including a transmitting state where the extracorporeal device carries out transmission to the in-body unit, and a receiving state where the extracorporeal device carries out reception from the in-body unit, by controlling the switching device to switch the plurality of antennas at a predetermined time interval (sequentially switched antennas "11a, 11b,..., 11d" [0073]) to transmit a request for detecting a receiving strength with respect to the in-body unit, transmitting a request for detecting a receiving strength with respect to the in-body unit, transmitting the detection request to the in-body unit, and receiving data on the receiving strength from the in-body unit ("highest radio wave strength" [0075]).

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[08c] wherein the extracorporeal device selects an antenna from the plurality of antennas in a preferable transmitting and receiving state in accordance with the data on the receiving strength received by the detecting device ("highest radio wave strength" as noted above).

[09] As noted above, Fujita discloses that the antennas are arranged near the body surface. Depending on the interpretation of the phrase, the antennas of Fujita could be construed to be along a running direction of a digestive tract. The phrase does not imply any particular arrangement of the antennas; only that they pick up signals from the capsule as it travels through the digestive tract. Clearly, Fujita's antennas accomplish this since they blanket the torso of the subject.

[09a] Fujita does not disclose that the antennas are arranged such that they mirror the path of the capsule as it travels through the digestive tract. As noted above, Fujita's antennas are placed such that they are more or less equidistant from each other, and more or less covering the torso of the subject.

[09b] Frisch discloses an "antenna array belt" wherein the antennas are arranged along a running direction of a digestive tract:

[0022] In one embodiment the antenna array belt includes eight antenna elements that are typically positioned on a subject's midsection. For example, the antenna elements can be positioned as follows. A first antenna element is positioned on the intersection of the right 7th intercostal space and right mid clavicular line; a second antenna element is positioned on the xiphoid process; a third antenna element is positioned on the intersection of the left 7th intercostal space and left mid clavicular line; a fourth antenna element is positioned on the right lumbar region at umbilical level; a fifth antenna element is positioned above the naval; a sixth antenna element is positioned on the left lumbar region at umbilical level; a seventh antenna element is positioned on the right mid-lingual

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region; and an eighth antenna element is positioned on the left mid-linguinal region. Other antenna positions and other numbers of antennas may be used. For example, an antenna array may be positioned on a subjects back.

[09c] At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide the antennas disclosed by Fujita along a running direction of a digestive tract, as disclosed by Frisch. A skilled artisan would be motivated to do so in order to maximize the expected signals by placing the antennas as nearly to the expected path of the capsule endoscope as can be estimated.

[10] With regard to claim 10:

[10a] Fujita discloses an antenna selecting device which detects a receiving strength, in the in-body unit, of signals transmitted from at least two antennas and selects the antenna in a preferable receiving and transmitting state ("highest radio wave strength" [0075]).

[10b] Fujita discloses that a number n of antennas whose receiving and transmitting states are detected is less than a number N of all of the attached antennas at a time of antenna switching ([0132]).

[11] With regard to claim 11: Fujita discloses that the antenna whose receiving and transmitting state is checked is determined based on the antenna which currently receives data ("highest radio wave strength" [0075]).

[12] With regard to claim 12:

[12a] Fujita discloses an antenna selecting device which detects a receiving strength, in the in-body unit, of signals transmitted from at least two antennas and selects the

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antenna in a preferable receiving and transmitting state ("highest radio wave strength" [0075]).

[12b] Fujita discloses a storing device which stores the communication state detected by the detecting device ("memory 47," [0072]).

[13] With regard to claim 13:

[13a] Fujita discloses an antenna selecting device which detects a receiving strength, in the in-body unit, of signals transmitted from at least two antennas and selects the antenna in a preferable receiving and transmitting state ("highest radio wave strength" [0075]).

[14] With regard to claim 14:

[14a] Fujita discloses an antenna selecting device which detects a receiving strength, in the in-body unit, of signals transmitted from at least two antennas and selects the antenna in a preferable receiving and transmitting state ("highest radio wave strength" [0075]).

[14b] Fujita discloses that the detecting device controls the antenna selecting device to select the antenna when operation for connection for the transmitting to receiving is not establishable (as noted above).

[15] With regard to claim 16: Fujita discloses that the antenna whose receiving and transmitting state is checked is determined based on the antenna which currently receives data ([0074]).

[16] With regard to claim 18: Fujita discloses that the detecting device selects one of the at least two antennas arranged to communicate data to the in-body unit connected to the extracorporeal device, via the switching device, in response to a detected communication

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state corresponding to movement of the capsular in-body unit in the body cavity. This is the process described in [0075].

[17] With regard to claims 19-21: As noted above, Fujita and/or Fujita in view of Frisch discloses a capsular medical system and method, the system comprising:

[17a] a capsular in-body unit ("capsule type endoscope 3," [0074]) having a radio communication device ("antenna 23," [0074]) which is inserted or swallowed to be introduced to the body cavity;

[17b] an extracorporeal device ("external unit 5," [0070]) comprising a communication device for bidirectional communication with the in-body unit, which is arranged outside the human body;

[17c] at least two antennas connected to the extracorporeal device ("multiple antennas 11a to 11d," [0070]) arranged near the body surface along a running direction of a digestive tract to communicate data to the in-body unit;

[17d] a transmission/reception switching section which switches communication direction with the in-body unit (sequentially switched antennas "11a, 11b,..., 11d" [0073]);

[17e] a timing signal generating section which generates, based on a predetermined time interval to transmit a request for detecting a receiving strength with respect to the in-body unit, a timing signal (electronic devices inherently have clocking signals);

[17f] an antenna selecting section which selects an antenna of the at least two antennas in a preferable transmitting and receiving state that communicates with

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the in-body unit among at least the two antennas ("highest radio wave strength"

[0075]) in accordance with the received data on the receiving strength.

[17g] As noted above, electronic devices such as the extracorporeal device disclosed by Fujita inherently have clocking signals (i.e. timers) which coordinate the activities of the device components. Therefore, all the processes identified above are inherently "related to" one another in that they are "based on" the timing signal.

Response to Arguments

[18] Applicant's arguments filed 10/14/09 have been fully considered but they are not persuasive.

[19] Applicant contends that Fujita "fails to teach arranging the plurality of antennas sequentially along the running direction of the digestive tract. Rather, [Fujita] discloses antennas arranged in an 'X' configuration."

[20] As noted above, an 'X' configuration meets the limitations of the claim, depending on how the phrase "along the running direction of the digestive tract" is interpreted. If the digestive tract 'runs along' an X, then the claim limitations are met.

[21] In either case, the claims are not allowable for the reasons set forth above. Frisch sets forth an antenna configuration that follows the running direction of the subject's digestive tract.

Conclusion

[22] Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip R Smith whose telephone number is (571) 272 6087 and whose email address is philip.smith@uspto.gov. The examiner can normally be reached between 9:00am and 5:00pm.

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- [23] If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on (571) 272 4764.
- [24] Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Philip R Smith/

Examiner, Art Unit 3739